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Abstract

The roughly 9.5 percent of all U.S. families that are without some type of transaction account (unbanked) are disproportionately represented by minorities. The unbanked often must rely on alternative ways to carry out basic financial transactions such as cashing payroll checks and paying bills. This study analyzes unique survey data and finds that a consumer's decision to patronize check-cashing businesses is jointly made with the decision to be unbanked. For the unbanked, these businesses are an important source for financial services. Attributes that contribute to these decisions, however, vary for each racial/ethnic group. Latent preference effects are also observed to influence this joint decision for Blacks and Hispanics. These findings may explain in part why the provisions of the Debt Collection Improvement Act (DCIA) of 1996 have not been more successful in bringing unbanked federal benefits recipients into the financial mainstream.

Consumer participation in mainstream financial markets can improve their ability to build assets and create wealth, protect them from theft and discriminatory, predatory or unsavory lending practices, and may promote economic stability and vitality in the communities where they reside. By more fully understanding a consumer's financial decisions, policies can be better directed to improve the effectiveness of legislation such as the DCIA of 1996 in encouraging mainstream financial market participation.

The Importance of Check-Cashing Businesses to the Unbanked:
Racial/Ethnic Differences

1. Introduction

Roughly 9.5 percent of all U.S. families are without some type of transaction account (unbanked). Over 24 percent of all minority families are unbanked, while the comparable figure for Whites is roughly 5 percent.[1] Unbanked consumers are also more likely to reside in low-to-moderate income (LMI) neighborhoods, to have lower income and net worth, to be less educated, younger, female, unmarried or unemployed.[2]

Where the unbanked go to obtain financial services may have substantive policy implications. For example, the Debt Collection Improvement Act (DCIA) of 1996 provided for electronic payment of recurring federal benefits (i.e., social security, supplemental security income and federal retirement payments) to save millions of dollars in costs by moving away from a paper check payment system.[3] The U.S. Treasury promoted electronic payment for unbanked recipients by creating Electronic Transfer Accounts (ETAs) which are low-cost deposit accounts administered by participating financial institutions. Although this provision drew much attention to the unbanked, a recent study by the U.S. General Accounting Office (GAO) determined that a substantial number of these recipients do not use electronic delivery primarily because they remain unbanked.[4] According to the GAO less than one percent of unbanked federal benefits recipients have opened ETAs since the program's implementation in July 1999.

Based on its analysis, the GAO expressed the need for additional research to better understand why participation rates in the financial mainstream are not higher. This study responds to the GAO's call for further research and offers evidence to suggest that

an important link exists between a consumer's choice to be unbanked and their decision to use non-mainstream financial service providers. If a more effective transition to an all-electronic payment system is to occur, policy makers will need to take these behavioral decisions into account. Similarly, as part of their Community Reinvestment Act (CRA) responsibilities, banks may desire to target some of their financial services and credit products to the unbanked, especially if these consumers reside in LMI communities. By knowing more about why consumers choose to be unbanked and how they meet their financial obligations, banks can better reach traditionally underserved consumers.

A consumer's decision to forego participation in the financial mainstream also may have far reaching effects. Communities with well functioning financial markets are more resilient against economic downturns and can more readily take advantage of economic growth. Greater mainstream participation, therefore, can help stabilize and revitalize communities. Participation can also facilitate asset building and wealth creation that can be drawn from for income smoothing needed at retirement or as a means of coping with unforeseen financial circumstances.

Unbanked consumers often must find alternative ways to make their financial transactions. The extraordinary growth in the check-cashing industry is indicative of the market's response to this consumer need. Financial services provided by these businesses include cashing checks, selling money orders, wiring money transfers, and transmitting local utility bill payments.[5] Several attempts have been made to explain the widespread growth of this industry, however the question remains unresolved. Some consumer advocates cite reductions in the number of bank branches as a result of mergers and acquisitions. They also contend that in some geographic areas, especially urban centers,

check-cashing establishments are disproportionately used by unbanked consumers who are vulnerable to market exploitation because of a lack of sufficient competition in the supply of mainstream sources of financial services.[6]   However, recent evidence has shown that the number of banking offices per capita across all neighborhoods (including LMI neighborhoods) has remained nearly the same since 1995.[7] Others contend that banks have inconvenient hours or locations, but this is not generally supported by surveys.[8] Another theory is that the mix of products and services offered by check-cashing businesses is more attractive to their customers. Thus, the unbanked may obtain financial services from these establishments in lieu of mainstream financial markets, while banked consumers may patronize check-cashing establishments in conjunction with the financial mainstream.

It is uncertain whether unbanked consumers are aware of the numerous advantages from having a relationship with a mainstream financial service provider. Holding a deposit account helps shield individuals against the risks associated with holding uninsured cash reserves, fosters asset building and wealth creation (e.g., home ownership), generates a financial cushion against unforeseen events, and provides consumers with useful tools for effectively managing personal finances.[9] According to some estimates, consumers relying on check cashers also pay more per year to make financial transactions.[10]   Finally, participation in mainstream financial markets also sets into motion close to 20 consumer protection laws and regulations to help ensure that individuals are safeguarded from unfair, discriminatory, or predatory lending practices. Consumers can better make sound financial decisions if information asymmetries

concerning the relative benefits and costs between using mainstream financial institutions and alternative financial service providers are eliminated.

This study analyses unique survey data to determine if a consumer's decision to obtain financial services from check-cashing businesses is jointly made with the decision to be unbanked. The paper is organized as follows: Section 2 provides a discussion about the survey data and a description of the sample analyzed. Section 3 suggests the theoretical/econometric model. Section 4 reports our findings from the empirical investigation. In the final section, we discuss the potential implications from the analysis.

2. Data and Sample Description

Several national consumer surveys collect transaction account information. In the case of the Federal Reserve Board's Survey of Consumer Finances, data are also collected about the reasons why families choose not to have a checking account. Few surveys have attempted to collect information about where unbanked consumers obtain financial services and certainly this is true about national surveys.[11] It is for this reason that the Federal Reserve Bank of Chicago sponsored the inclusion of additional questions concerning where consumers go to obtain financial services to an annual survey conducted by Metro Chicago Information Center (MCIC) for the Chicago metropolitan area.[12]

Check-cashing establishments are commonly referred to as currency exchanges (hereafter referred to as such) in the Chicago metropolitan area. The financial services offered by currency exchanges include cashing checks, selling money orders, providing wire money transfer services, and submitting local utility bill payments.[13] Most of the data were collected in a telephone survey of households selected through a random-digit-

dialing sampling technique. Face-to-face surveys were also conducted to include information in the sample from households without telephones. Interviews were given in Spanish to accommodate Spanish-speaking respondents.

Table 1 provides the definition and mean of variables obtained in the survey from the full sample of 2,339 households and for each racial/ethnic subgroup.[14] Compared to the nation, the Chicago metropolitan sample population has a somewhat greater proportion of households with higher education, greater income, and who are more broadly represented by minority groups.[15] As shown in Table 1, White households comprise 67 percent, Blacks 23 percent, and Hispanics 10 percent of the total sample. The unbanked are more heavily represented by minorities. Specifically, less than 3 percent of Whites are unbanked, whereas 29 percent of Blacks and 24 percent of Hispanics are unbanked. Roughly 29 percent of the sampled individuals obtain financial services from currency exchanges (CE_FIN = 1). Patronage is greatest for Blacks (65.5 percent) and Hispanics (48.5 percent).

Obtaining financial services from currency exchanges is not confined solely to unbanked households. Table 2, which reports descriptive information for banked and unbanked households, shows that banked and unbanked individuals use currency exchanges. A comparison of the unbanked sample by racial/ethnic subgroup reveals that a higher proportion of Blacks and Hispanics are unbanked relative to Whites. A greater proportion of individuals in these two subgroups have lower income and less education (12 years of schooling or less) than their White counterparts. Almost 33 percent of the unbanked Whites reside in LMI neighborhoods; whereas over 75 percent of the unbanked Hispanics and 41 percent of the unbanked Blacks reside in LMI neighborhoods.

The types of financial services obtained by unbanked and banked currency exchange patrons are shown in Table 3. For unbanked households in each racial/ethnic group, cashing checks was the most frequent financial service obtained from currency exchanges. Money orders were the most frequent financial service sought by banked Blacks; whereas paying bills was the service most frequently obtained by banked Hispanics. Conversely, only a small proportion of banked White households obtained financial services from currency exchanges.

3. Theoretical Model and Econometric Framework

Building from a consumer choice theoretical framework, we propose to model the consumer's choice of whether to use a currency exchange to make financial transactions or not with a binomial probit model,

$$\text{Prob[Use Currency Exchange} \mid \mathbf{x}] \; = \; \Phi(\boldsymbol{\beta}'\mathbf{x})$$

where $\Phi(t)$ denotes the CDF of the normal distribution and $\mathbf{x}$ denotes those covariates that influence the choice.[16] The choice of currency exchange patronage is influenced by an individual's socioeconomic, demographic, and life-cycle covariates. The dependent variable, y_1 = CE_FIN, is equal to one if the household uses a currency exchange to obtain financial services and zero otherwise. An important consideration is the possibility that an individual's initial decision to be unbanked influences currency exchange use. Following Greene (1998), we employ a recursive bivariate probit model to evaluate the possible linkage between the decision to be unbanked and use of currency exchanges for each racial/ethnic group. The variable, y_2 = UNBANKED, is equal to one if the household does *not* have a checking or a savings account and equals zero otherwise.

The probit specification is also used to model this second choice variable. The full model is

$$y_1{}^* = \beta' \mathbf{x}_1 + \gamma y_2 + \epsilon_1, \qquad y_1 = 1 \text{ if } y_1{}^* > 0, \quad 0 \text{ otherwise,} \qquad (1)$$

$$y_2{}^* = \alpha' \mathbf{x}_2 + \epsilon_2, \qquad y_2 = 1 \text{ if } y_2{}^* > 0, \quad 0 \text{ otherwise,} \qquad (2)$$

where the disturbances are jointly normally distributed with

$$E[\epsilon_1] = E[\epsilon_2] = 0,$$

$$\text{Var}[\epsilon_1] = \text{Var}[\epsilon_2] = 1,$$

$$\text{Corr}[\epsilon_1, \epsilon_2] = \rho,$$

and y_1 and y_2 denote CE_FIN and UNBANKED, respectively. The joint decision is described by the probability model,

$$\text{Prob }[y_1 = 1, y_2 = 1] = \text{Prob }[y_1 = 1 \mid y_2 = 1] \times \text{Prob }[y_2 = 1]$$

$$= \{\text{BVN}(y_1 = 1, y_2 = 1)/\text{Prob}[y_2 = 1]\} \times \text{Prob}[y_2 = 1], \qquad (3)$$

where BVN denotes the CDF of the bivariate normal distribution. If we insert the variables of our model and include the two parameter vectors, the preceding can be rewritten as

$$\text{Prob }[y_1 = 1, y_2 = 1] = [\text{BVN}(\beta' \mathbf{x}_1 + \gamma, \alpha' \mathbf{x}_2, \rho) / \Phi(\alpha' \mathbf{x}_2)] \times \Phi(\alpha' \mathbf{x}_2). \qquad (4)$$

After canceling terms, this produces the bivariate probability

$$\text{Prob}[y_1 = 1, y_2 = 1] = \text{BVN}(\beta' \mathbf{x}_1 + \gamma, \alpha' \mathbf{x}_2, \rho)$$

where β, γ, α' and ρ are the parameters to be estimated. The three remaining cases are

$$\text{Prob }[y_1 = 1, y_2 = 0] = \text{BVN}(\beta' \mathbf{x}_1, -\alpha' \mathbf{x}_2, -\rho),$$

$$\text{Prob }[y_1 = 0, y_2 = 1] = \text{BVN}(-\beta' \mathbf{x}_1 - \gamma, \alpha' \mathbf{x}_2, -\rho), \text{ and}$$

$$\text{Prob }[y_1 = 0, y_2 = 0] = \text{BVN}(-\beta' \mathbf{x}_1 - \gamma, -\alpha' \mathbf{x}_2, \rho)$$

Despite initial appearances, these terms enter the usual likelihood function for the bivariate probit model in all four cases. Contrary to what intuition might suggest, the presence of y_2 in the first equation does not cause a "simultaneity" problem. The model can be consistently and efficiently estimated as a bivariate probit model, as stated, by maximum likelihood as if there were no joint determination in the first equation.[17]

4. Empirical Investigation

The bivariate probit model is estimated to ascertain whether the probability of obtaining financial services from currency exchanges (CE_FIN) is jointly determined with being unbanked (UNBANKED) for the full sample.[18] This model includes a correlation between the latent (unobserved) effects in the CE_FIN and UNBANKED equations. If this correlation coefficient, ρ, is measured as statistically different from zero, we conclude that using a currency exchange not only is directly affected by the decision to be unbanked, but also is indirectly influenced through household effects (such as unmeasured preference effects) which are not explicit in the model. We do note that our specification is an extension of the standard model in that, even if ρ equals zero, the two consumer decisions would not be viewed as independent—UNBANKED appears explicitly in the CE_FIN equation.

Because currency exchanges offer unbanked households an alternative means of obtaining financial services, being unbanked is expected to have a positive influence on the likelihood of using currency exchanges. Research shows that minorities (BLACK and HISPANIC), lower-income (LOWINC) consumers, and residents in LMI neighborhoods (LOWMOD) are more likely to be unbanked and to use currency exchanges than Whites, higher-income individuals, or consumers living in middle- or upper-income communities,

respectively.[19] These attributes are included to capture their potential influences on being unbanked and using currency exchanges. Younger (AGE25) or less educated (EDUC11 and EDUC12) consumers may have a more limited understanding about the financial advantages and consumer protections afforded them through relationships with mainstream financial service providers. As such, they may be more likely to be unbanked and to use currency exchanges than older or more educated consumers.

Generally, a household's net worth is comprised of the dollar value of financial assets held such as savings and other deposit accounts, stocks, bonds, certificates of deposit and retirement accounts. For the data analyzed in this study, we can ascertain householder ownership of many aspects of net worth (e.g. presence of savings accounts, money market funds, IRAs) but we are unable to determine the dollar value of many. However, data from the Survey of Consumer Finances suggest that there is a strong, positive correlation between a household's net worth and being a homeowner.[20] As such, homeownership (OWNHOME) is used as an indicator variable for the householder's net worth and is expected to be negatively related to being unbanked.

The need (taste and preference) for making financial transactions is likely to be influenced by marital status. Those who are married (MARRIED) are expected to be less likely to be unbanked than their unmarried counterparts.[21] Convenient hours or locations and lower transactions costs in terms of time required to make financial transactions are major features sought by currency exchange patrons. The value of one's time (i.e., market opportunity cost) and the need for convenience suggests that working (EMPLOYED) or possibly married (MARRIED) consumers may be more likely to use currency exchanges than their non-working or single counterparts.[22]

The estimated bivariate probit models are shown in Table 4. The model for the total sample in the last column reveals that a consumer's decision to patronize currency exchanges is jointly made with the decision to be unbanked. The significance of the estimated coefficients for Blacks and Hispanics (relative to Whites) further suggests that racial/ethnic differences exist in this decision-making process and thereby support separately estimating the model for each group.

The UNBANKED equation for each racial/ethnic group reported in Table 4 shows that educational attainment and neighborhood income geography have a positive influence on the decision to be unbanked; while a householder's net worth, as proxied by homeownership, has a negative influence on the decision to be unbanked. For Whites or Blacks, being married has a negative influence on the decision to be unbanked; and for Blacks, being younger has a positive influence on the likelihood of being unbanked.

The CE_FIN equation for each racial/ethnic group shows that being unbanked significantly increases the likelihood of obtaining financial services at currency exchanges. Whites who have lower income, are younger or employed are more likely to obtain financial services from currency exchanges. Similarly, being married or employed increases the likelihood that Blacks use currency exchanges. Hispanics who are younger are more likely to use currency exchanges, whereas the reverse is true for Hispanic females.

Marginal effects are computed to estimate the influence that the socioeconomic, demographic, and life-cycle characteristics have on the probability that unbanked consumers use currency exchanges. The conditional probability,

Prob[CE_FIN=1|UNBANKED=1], includes both a direct and an indirect effect.   From

the model structure in (4), the probability is

Prob[CE_FIN=1|UNBANKED=1]   = Prob $[y_1 = 1 | y_2 = 1]$

$$= \text{Prob } [y_1 = 1, y_2 = 1] \, / \, \text{Prob}[y_2 = 1].$$

A variable of interest can appear in both probabilities. The direct and indirect effects can

be seen by assuming that the variable is continuous and differentiating the probability.

Denoting the influence by z, we have

$$\frac{\partial \text{ Prob } (y_1 = 1, y_2 = 1) \, \partial z}{\text{Prob } (y_2 = 1)} - \frac{(\partial \text{ Prob } (y_2 = 1) \, / \, \partial z)\text{Prob } (y_1 = 1, y_2 = 1)}{[\text{Prob } (y_2 = 1)]^2}$$

$$= \text{ direct effect} + \text{indirect effect}.$$

An attribute's total marginal effect in the currency exchange model is the sum of its

direct and indirect effects. The direct effect is produced by the attribute's presence in the

first equation, CE_FIN. The indirect effect is also produced if this same attribute is

included in the second equation, UNBANKED. Accordingly, the total marginal effect on

CE_FIN is the sum of the direct and indirect effects for those attributes that are specified

in both equations. Attributes that are included in the second equation directly influence

the probability of being unbanked. This effect is transmitted back to the first equation

through the attribute, UNBANKED, which appears in the CE_FIN equation, thus

exerting the secondary, or indirect effect. The variables on the right hand side of the

CE_FIN equation are all binary. The marginal effects are computed by evaluating the

conditional probability with these set equal to one then zero, with other variables fixed at

the sample means, so the decomposition is implicit.

As shown in Table 5, unbanked Whites who have lower-income are 3 percentage

points more likely to use currency exchanges than their unbanked higher-income

counterparts. Younger unbanked Whites are 4 percentage points more likely than their older unbanked cohorts to choose currency exchanges, while unbanked employed Whites are 3 percentage points more likely to obtain financial services from currency exchanges. For unbanked Blacks, being employed significantly increases the probability of using a currency exchange by 7 percent points. Being married also increases the likelihood that unbanked Blacks uses currency exchanges, albeit the influence is small. Finally, unbanked younger Hispanics are 20 percentage points more likely to obtain financial services from a currency exchange than their older counterparts, while they are 8 percentage points less likely to use currency exchanges if they are unbanked females.

Interpreting Racial/Ethnic Differences in the use of Currency Exchanges

The significance of ρ observed for Blacks and Hispanics but not for Whites in Table 4 merits further discussion.[23] This finding suggests that, after the influence of being unbanked and other factors are accounted for, unmeasured preference effects persist for Blacks and Hispanics. This raises a potentially important question. What are the latent preferences or attributes not being captured for these minority groups in the analysis? Some plausible explanations are offered for consideration.

One possibility is that Blacks and Hispanics perceive the price for financial services to be lower at currency exchanges than at banks. If this is the case, a lower price ratio will increase the likelihood of being unbanked and being unbanked will increase the likelihood of using currency exchanges. Reasons given by consumers for not having a checking account are consistent with and reinforce the idea that price differentials may be influencing the decisions made by unbanked Blacks and Hispanics to use currency exchanges. As shown in Table 6, when asked why they did not have a checking account,

a relatively high proportion of unbanked Blacks and Hispanics stated that cost-related reasons influenced their decision not to have a checking account. Therefore, ρ may be capturing perceptions held by Blacks and Hispanics about the relative prices for financial services between currency exchanges and banks as well as the perceived costs associated with opening and maintaining a bank account.

A purported advantages of using currency exchanges is the immediate availability of funds. Another possibility is that ρ is capturing the influence of liquidity constraints. Those with less liquidity (i.e., Blacks and Hispanics in our analysis) may be more likely to be unbanked and to use currency exchanges. Similarly, Blacks and Hispanics may have a greater preference for making financial transactions with cash and thereby more likely to be unbanked and to use currency exchanges. Liquidity constraints or a preference to use only cash is consistent with the observation that unbanked Blacks and Hispanics obtain check-cashing and bill paying services from currency exchanges more frequently than Whites (Table 3).

To better determine whether this is a possibility, the models were estimated for each of the four types of financial services (cashing checks, purchasing money orders, paying bills, and wiring money transfers) purchased from currency exchanges by each racial/ethnic group. For unbanked Blacks and Hispanics who obtain check-cashing services and for unbanked Blacks who pay bills at currency exchanges, ρ remains significant and negative.[24]   This suggests that unmeasured preference effects exist for unbanked Blacks and Hispanics who choose to cash checks at currency exchanges and for unbanked Blacks who pay bills at these establishments. While not definitive, these

findings support the proposition that ρ may be capturing lower transactions or time costs, liquidity constraints, or a desire to make cash transactions.

Finally, Blacks and Hispanics also may have a greater preference than Whites for patronizing currency exchanges in lieu of banks because of information asymmetries due to differences in experiences or culturally driven preferences. For example, if Blacks or Hispanics historically experienced discrimination by banks, they may have turned to currency exchanges to meet their financial transaction needs. Moreover, these experiences, perceptions, and behaviors may have been intergenerationally transmitted.[25]

5. Potential Implications

If participation in the financial mainstream helps promote community economic development and facilitates asset building and wealth creation, our finding that unbanked consumers have a strong preference for obtaining financial services from check-cashing businesses is of importance to policy makers creating further enhancements to Treasury's ETA program for the unbanked. In the Chicago metropolitan area over half of the 731,000 federal benefits recipients are unbanked. Seventy-five[26] percent of these unbanked recipients use check-cashing businesses and are primarily (70 percent) Black or Hispanic. To more effectively bring these unbanked individuals into the financial mainstream, it is essential for policy makers to recognize that these consumers have made these interdependent decisions in accordance with their marginal cost/marginal benefit calculations. The latent preference effects observed for Blacks and Hispanics in the joint decision to be unbanked and to use a check-cashing business also suggests that further research is needed to better identify the sources for these effects.

To the extent that these decisions are driven by asymmetric information, policy makers could promote financial education programs aimed at helping consumers make informed decisions. Our study suggests that certain financial education topics may be especially useful to unbanked consumers. For example, these consumers will likely benefit from knowing more about the prices charged by mainstream and other financial service providers, where low-cost checking and/or savings accounts can be obtained and how to open and manage these types of deposit accounts. Because less educated and younger consumers are more likely to be unbanked and to use currency exchanges to meet their financial service needs, opportunities exist for financial institutions to actively participate in education and outreach programs, possibly by establishing partnerships with community-based organizations, government agencies and academic institutions that work directly with unbanked consumers. Moreover, culturally diverse financial institutions may be better able to attract and serve minority consumers, especially those who reside in LMI communities. The recent efforts being undertaken by federal financial regulatory agencies, financial institutions, private corporations, non-profit and community groups, and academia/extension programs to create public-private partnerships designed to educate and help consumers make sound, long-term financial decisions are encouraging.

The greater efforts being made to develop and market innovative transactions products for unbanked consumers, especially minorities who may have been discouraged from mainstream participation because of latent preferences, also may be fruitful toward bringing the unbanked into the financial mainstream. As an example, payroll cards, which are a relatively new type of transaction product (debit card), are being offered to

unbanked workers through partnerships between employers and financial institutions who have a relationship with Visa or MasterCard.[27] Using electronic rather than paper-based payments, employers lower their payroll costs, while financial institutions gain new market opportunities. Our findings support the potential feasibility of this type of product for unbanked employed consumers. Payroll cards are an example of a potential substitute for check-cashing business services that can help bring unbanked employees into the financial mainstream through market competition. In this case, unbanked consumers are being viewed by mainstream financial institutions as viable, untapped markets worth pursuing in unconventional and creative ways. While the results of this study reflect the behavior of urban households in the Chicago metropolitan area, we believe that important insights can be drawn to help policy makers, financial institutions, community leaders and educators bring the unbanked into the financial mainstream.

Table 1
Descriptive Statistics

Variable	Definition of Variables	Total Sample Mean(%)	White Sample Mean(%)	Black Sample Mean(%)	Hispanic Sample Mean(%)
CE_FIN	Indicator variable = 1 if respondent obtained financial services from currency exchange within the last year, 0 otherwise	29.2	14.2	65.5	48.5
UNBANKED	Indicator variable = 1 if do not have checking and/or savings account, 0 otherwise	10.7	2.5	29.1	24.3
BANKED	Indicator variable = 1 if either have a checking or a savings account, 0 otherwise	89.3	97.5	70.9	75.7
LOWINC	Indicator variable = 1 if income <= $30,000, 0 otherwise	28.0	18.2	51.5	40.0
AGE25	Indicator variable = 1 if 18 <= age < 25, 0 otherwise	7.0	5.3	8.9	13.6
FEMALE	Indicator variable = 1 if female, 0 otherwise	60.5	58.0	69.1	57.0
MARRIED	Indicator variable = 1 if married or married-like relationship, 0 otherwise	54.5	60.1	34.9	61.3
EDUC11	Indicator variable = 1 if number of years of schooling completed < 12 years, 0 otherwise	11.2	4.8	23.2	27.7
EDUC12	Indicator variable = 1 if number of years of schooling completed = 12 years, 0 otherwise	15.9	14.4	17.0	23.0
WHITE	Indicator variable = 1 if White, 0 otherwise	67.3	1.0	-	-
BLACK	Indicator variable = 1 if Black, 0 otherwise	22.7	-	1.0	-
HISPANIC	Indicator variable = 1 if Hispanic, 0 otherwise	10.0	-	-	1.0
LOWMOD	Indicator variable = 1 if low-to-moderate income geographies defined as census tracts with median family income of 80% or less of the median family income for the Chicago MSA, 0 otherwise	27.1	10.2	66.6	51.5
EMPLOYED	Indicator variable = 1 if employed, 0 otherwise	70.8	73.6	60.6	75.7
OWNHOME	Indicator variable = 1 if own home, 0 otherwise	62.4	72.8	36.4	51.1
SAMPLE SIZE (Percentage of Total)		2,339 (100)	1,574 (67)	530 (23)	235 (10)

Table 2
Descriptive Statistics

	Banked Households			Unbanked Households		
	White Sample	*Black Sample*	*Hispanic Sample*	*White Sample*	*Black Sample*	*Hispanic Sample*
Variable	**Mean(%)**	**Mean(%)**	**Mean(%)**	**Mean(%)**	**Mean(%)**	**Mean(%)**
CE_FIN	12.5	56.4	41.0	80.0	87.7	71.9
LOWINC	17.5	38.3	29.8	47.5	83.8	71.9
AGE25	5.0	6.6	11.2	17.5	14.3	21.1
FEMALE	58.1	67.8	56.7	57.5	72.1	57.9
MARRIED	60.9	41.8	64.0	30.0	18.2	52.6
EDUC11	3.9	13.3	21.3	35.0	47.4	47.4
EDUC12	14.2	15.7	20.8	20.0	20.1	29.8
WHITE	100	-	-	100	-	-
BLACK	-	100	-	-	100	-
HISPANIC	-	-	100	-	-	100
LOWMOD	9.6	59.0	43.8	32.5	40.9	75.4
EMPLOYED	74.2	68.6	79.8	50.0	40.9	63.2
OWNHOME	74.1	47.1	61.2	22.5	10.4	19.3
SAMPLE SIZE (Percentage of Total)	1534 (73.5)	376 (18.0)	178 (8.5)	40 (16)	154 (61)	57 (23)

Table 3
Types of Financial Services
Obtained from Currency Exchanges[1]

Financial Service	White Sample	Black Sample	Hispanic Sample
	Unbanked	**Unbanked**	**Unbanked**
	%	*%*	*%*
Cashing Checks	55	69	61
Purchasing Money Orders	38	36	21
Paying Bills	23	32	26
Wire Money Transfers	5	4	7
Sample Size	40	154	57
	Banked	**Banked**	**Banked**
	%	*%*	*%*
Cashing Checks	4	21	12
Purchasing Money Orders	5	32	15
Paying Bills	5	23	21
Wire Money Transfers	1	7	6
Sample Size	1534	376	178

[1] Multiple Responses Possible

Table 4
Bivariate Probit Model

Variable	White	Black	Hispanic	Total Sample
Equation For CE_FIN = 1				
CONSTANT	-1.62*	-0.48*	-0.35	-1.48 *
	(.123)	(.171)	(.320)	0.099
LOWINC	0.45*	0.18	0.18	0.36 *
	(.108)	(.130)	(.200)	.079
AGE25	0.44*	0.28	0.59***	0.55*
	(.158)	(.247)	(.315)	.120
FEMALE	-0.05	0.03	-0.31***	-0.06
	(.085)	(.122)	(.185)	.065
MARRIED	-0.02	0.25**	0.10	0.01
	(.091)	(.128)	(.191)	.069
EDUC11	0.19	-0.23	-0.23	0.13
	(.221)	(.179)	(.229)	.132
EDUC12	0.13	0.10	-0.05	0.17**
	(.118)	(.183)	(.247)	.093
EMPLOYED	0.44*	0.20***	0.02	0.30*
	(.103)	(.121)	(.216)	.076
BLACK	-	-	-	1.16*
				.089
HISPANIC	-	-	-	0.66*
				.102
UNBANKED	2.35*	1.93*	1.44*	1.28*
	(.605)	(.187)	(.447)	.271
Equation For UNBANKED=1				
CONSTANT	-1.81	-0.99	-1.12*	-1.76*
	(.168)	(.197)	(.276)	.120
AGE25	0.22	0.32***	0.20	0.26**
	(.268)	(.182)	(.255)	.125
FEMALE	0.13	0.07	0.06	0.09
	(.176)	(.147)	(.225)	.098
MARRIED	-0.21*	-0.34**	-0.04	-0.24**
	(.161)	(.151)	(.217)	.100
EDUC11	1.25*	0.97*	0.75*	1.03*
	(.219)	(.152)	(.267)	.110
EDUC12	0.42*	0.33**	0.57**	0.47*
	(.247)	(.169)	(.267)	.122
OWNHOME	-0.86*	-0.78*	-0.95*	-0.88*
	(.184)	(.149)	(.221)	.102
LOWMOD	0.38*	0.52*	0.66*	0.47*
	(.210)	(.148)	(.223)	.109
BLACK	-	-	-	0.71*
				.127
HISPANIC	-	-	-	0.72*
				.147
$\rho(1,2)$	-0.249	-0.838*	-0.547**	-0.16
	(.345)	(.138)	(.315)	.166
Sample Size	1574	530	235	2339
Log Likelihood	-711.74	-543.09	-247.31	-1,528.16

* significance at the .01 level, ** significance at the .05 level, *** significance at the .1 level
standard error in parentheses

Table 5
Marginal Effects

Dependent Variable: CE_FIN = 1 Given Unbanked = 1

Variable	White	Black	Hispanic
CONSTANT	-0.15	-0.45*	-0.26*
	(.246)	(.095)	(.096)
LOWINC	0.03*	0.07	0.05
	(.066)	(.058)	(.071)
AGE25	0.04*	0.19	0.20***
	(0.069)	(.104)	(.135)
FEMALE	-0.001	0.03	-0.08***
	(.009)	(.048)	(.071)
MARRIED	-0.005	0.004**	0.02
	(.009)	(.052)	(.058)
EDUC11	0.03	0.17	0.03
	(.049)	(.062)	(.067)
EDUC12	0.02	0.13	0.06
	(.226)	(.070)	(.070)
EMPLOYED	0.03*	0.07***	0.005
	(.063)	(.054)	(.065)
Sample Size	1574	530	235

* significance at .01 level, ** significance at .05 level , *** significance at .10 level
Standard error in parentheses

Table 6
Reasons for Not Having a Checking Account[1]

	White %	Black %	Hispanic %
Credit history bad or bank turned me down	13	1	0
Cost-related reasons Not enough money to open acct. Don't write enough checks Min balance/fees too high	53	65	58
Don't trust banks	8	3	4
Do not like dealing with banks	5	3	5
Want to keep records private	0	3	9
Too hard to manage	3	2	2
No bank has convenient hours or location	3	0	0
Sample Size	40	154	57

[1]Multiple Responses Possible.

References

ATM & Debit News, "Visa Adds A New Prepaid Product with a Payroll Spin," August 2, 2001.

Booz-Allen and Hamilton Shugoll Research, "Mandatory EFT Demographic Study*,"* OMB #1510-00-68, Washington: U.S. Department of the Treasury, September 15, 1997.

Bostic, Raphael W. and Glenn B. Canner, " Consolidation in Banking: How Recent Changes Have Affected the Provision of Banking Services," *The Neighborworks' Journal*, Winter 2000, p 22-25.

Caskey, J. P., *Lower-Income Americans, Higher Cost Financial Services*. University of Wisconsin-Madison, School of Business: Filene Research Institute, Center for Credit Union Research, 1997.

Caskey, John P., *Fringe Banking : Check-Cashing Outlets, Pawnshops, and the Poor*. New York : Russell Sage Foundation, 1994.

Doyle, Joseph, J. Jose A. Lopez and Marc R. Saidenberg, "How Effective is Lifeline Banking in Assisting the 'Unbanked'?" Federal Reserve Bank of New York, *Current Issues in Econometrics and Finance*, Vol. 4, June 1998.

Dove Associates, Inc., "ETA Conjoint Research : Final Report and Market Model, Unbanked Federal Check Recipients*,"* OMB #1510-00-71, Washington: U.S. Department of the Treasury, May 26, 1999.

Dunham, Constance R., "The Role of Banks and Nonbanks in Serving Low- and Moderate-Income Communities," Changing Financial Markets and Community Development: A Federal Reserve System Research Conference, Washington, DC, August 2001.

Financial Service Centers of America Inc., (FiSCA), formally National Check Cashers Association Inc., "FiSCA Facts: The Check-Cashing Industry," website, www.nacca.org/q&a.htm.

Greene, William H., *Econometric Analysis,* Fifth Edition, Prentice-Hall, Inc., 2003.

Greene, William H., "Gender Economic Courses in liberal Arts Colleges: Further Results," *Journal of Economic Education*, Fall, 1998, pp. 291-300.

Hogarth, Jeanne M. and Kevin H. O'Donnell, "Banking Relationships of Lower-Income Families and the Governmental Trend toward Electronic Payment," *Federal Reserve Bulletin*, July 1999, p. 459-473.

Hogarth, Jeanne M. and Kevin H. O'Donnell, "Bank Account Ownership and Use of Financial Institutions: Helping the "Unbanked" Become Banked," *Proceedings of the Eastern Family Economics Resource Management Association,* 1998.

Hogarth, J. M. and Kevin H O'Donnell, "Being Accountable: A Descriptive Study of Unbanked Households in the U.S.," Proceedings of the Association for Financial Counseling and Planning Education, Phoenix, Arizona, 1997.

Kennickell, Arthur B., Martha Starr-McCluer, and Brian J. Surette, "Recent Changes in U.S. family Finances: Results from the 1998 Survey of Consumer Finances," *Federal Reserve Bulletin*, Vol. 86, pp. 1-29, January 2000.

Kennickell, Arthur B., Martha Starr-McCluer, and Annika E. Sunden, "Family Finances in the U.S.: Recent Evidence from the Survey of Consumer Finances," *Federal Reserve Bulletin,* Vol. 83, January 1997.

Kooce-Lewis, Joan, R. Swagler, and J. R. Burton, "Low-Income Consumers' Use of the Alternative Financial Service Sector," Consumer Interest Annual, Vol. 42, pp. 271-74, 1996.

LIMDEP, Plainview, N.Y.: Econometric Software, 1998.

Mullen Erin, E., Malcolm Bush and Samantha Weinstein, "Currency Exchanges Add to Poverty Surcharge for Low-Income Residents," Woodstock Institute, Reinvestment Alert, No. 10, March Chicago, Illinois, 1997.

Oliver, Melvin and Thomas Shapiro, *Black Wealth/White Wealth: A New Perspective on Racial Inequality*, New York: Routledge, 1995.

Organization for a New Equality, *Cash, Credit & EFT '99: Reducing the Cost of Credit and Capital for the Urban Poor,* Washington, DC, 1998.

Prescott, Edward S. and Daniel D. Tatar, "Means of Payment, the Unbanked, and the EFT '99," Federal Reserve of Richmond *Economic Quarterly*, Vol. 85/4, Fall 1999.

Rhine, Sherrie L.W., Maude Toussaint-Comeau, "The Use of Formal and Informal Financial Markets Among Black Households," *Consumer Interests Annual*, Vol. 45, 1999.

Rhine, Sherrie L.W., Maude Toussaint-Comeau, Jeanne M. Hogarth, and William H. Greene, "The Role of Alternative Financial Service Providers in Serving LMI Neighborhoods," Proceedings of the Changing Financial Markets and Community Development: A Federal Reserve System Research Conference, Washington, DC, August 2001.

The Pueblo Chieftain, "Bank to Offer Payroll Card," July 26, 2001.

U.S. General Accounting Office Report to the Subcommittee on Oversight and Investigations, Committee on Financial Services, House of Representatives, "Electronic Transfers-Use by Federal Payment Recipients Has Increased but Obstacles to Greater Participation Remain," GAO-02-913, September 2002.

Endnotes

[1] Kennickell *et al*, 2000.

[2] Hogarth and O'Donnell, 1997; Booz-Allen & Hamilton Shugoll Research, 1997; and Caskey, 1997.

[3] Pub. L. No. 104-134, Title III § 31001(x) (1996).

[4] U.S. General Accounting Office Report, "Electronic Transfers-Use by Federal Payment Recipients Has Increased but Obstacles to Greater Participation Remain," GAO-02-913, September 2002.

[5] Over 180 million checks, in excess of $55 billion, flow annually through the check-cashing industry. The number of check-cashing establishments (presently 6,000) has doubled in last five years (FiSCA).

[6] Mullen *et al,* 1997.

[7] Raphael W. Bostic and Glenn B. Canner, 2000.

[8] See, for example, data from the Survey of Consumer Finances. Virtually none of the LMI respondents in the 1995 SCF cited inconvenient hour or location as their reason for not having a checking account (Hogarth and O'Donnell, 1999).

[9] Rhine and Toussaint-Comeau, 1999.

[10] Doyle *et al*, 1998 and Organization for New Equality, 1998.

[11] Two notable exceptions come from surveys administered only to lower-income individuals in specific geographies. The U.S. Office of the Comptroller of the Currency conducted a survey to LMI individuals residing in the New York and Los Angeles areas (Dunham, 2001) and Caskey (1997) who conducted surveys to LMI individuals in Atlanta, Oklahoma City and five smaller Pennsylvania cities. Studies using these two data sources differ from our analysis in two important ways. First, by design these studies are limited to observing only the decisions made by LMI individuals; and second, to our knowledge these data sources have not been used to rigorously test whether the decision to be unbanked is jointly determined with the decision to use check-cashing businesses.

[12] Information about MCIC, a nonprofit research organization located in Chicago IL, can be found at www.mcic.org. In general, results from the total population survey can be expected to differ by no more than 1 percentage point in either direction from the results that would be obtained by interviewing all adults in the six-county area. The Chicago primary metropolitan area covered in this survey includes Cook, DuPage, Lake, Kane, McHenry, and Will counties.

[13] Currency exchanges offer a diverse array of nonfinancial services such as the sale of public transportation fares (e.g., bus and train passes), postage stamps, pre-paid telephone cards, notary services, and lottery tickets. They also collect local tax (e.g., property taxes) payments, distribute public assistance benefits, sell motor vehicle license plates, and handle vehicle title transfers.

[14] Because of their relatively small sample size, Asians, Native Americans, and 'other' racial/ethnic groups are excluded from the analysis.

[15] More information about the sample characteristics can be found in Rhine *et al,* 2001.

[16] See Greene, 2003 (Chapter 21).

[17] See Greene, 2003, page 716.

[18] This modeling technique was employed using LIMDEP software, version 7.0, 1998, Econometric Software, Inc., www.limdep.com.

[19] Kooce-Lewis *et al*, 1996 and Caskey, 1994.

[20] Kennickell *et al*, 1997.

[21] Hogarth and O'Donnell, 1998.

[22] The hourly wage rate is commonly used as a proxy for an individual's time cost. This information, however, was not collected in the survey.

[23] A likelihood ratio test (LRT) of the null hypothesis that ρ equals zero against the alternative reaffirms the ability to reject the null for Blacks and Hispanics but not for Whites. The critical value drawn from a chi-square distribution with one degree of freedom and a .10 level of significance is 2.71. The test statistic for Blacks, $LRT = 2[-543.09 - (-549.76) = 13.34$; for Hispanics, $LRT = 2[-247.31 - (-248.85)] = 3.08$; and for Whites, $LRT = 2[-811.19 - (-812.12] = 1.86$.

[24] For Blacks, ρ is insignificant for the money orders and wire transfers financial services models, while for Hispanics ρ is insignificant for money orders, wire transfers, and bill paying financial services models. For Whites, ρ remains insignificant in the four models estimated.

[25] For a discussion about how financial behaviors are transmitted from parents to children of different racial/ethnic backgrounds, see Oliver and Shapiro, 1995.

[26] According to the U.S. Census in 2000 approximately 8,377,000 persons resided in the six-county Chicago metropolitan area.

[27] See *The Pueblo Chieftain*, July 26, 2001 and ATM & Debit News, August 2, 2001.

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